

CLAIM AMENDMENTS

1. (Previously Presented) An underwater lighting unit, comprising:
an array of light emitting diodes (LEDs) mounted against a wall of a thermally conductive housing;
a collimator comprising a clear transparent material in front of each LED in the array; and
a transparent screen aligned across front faces of the collimators and in contact with said front faces, the transparent screen being sealingly edge-mounted in a peripheral recess around walls of the housing so as to create and maintain a sealed air space between an interior of the housing and walls of the collimators, at least a portion of the walls of the housing being in direct heat exchange contact with water in which the lighting unit is submerged to provide cooling for the array of LEDs.
2. (Currently Amended) An underwater lighting unit according to claim 1, wherein a back wall of the housing is in direct contact with a surface on which the ~~lighting unit~~ array of light emitting diodes is mounted.
3. (Previously Presented) An underwater lighting unit according to claim 1, wherein the housing is cast, formed or machined from a single piece of metal so that back and side walls of the housing are contiguous and joint-free.
4. (Previously Presented) An underwater lighting unit according to claim 1, wherein the housing is formed from a plastic material and further comprising a plate of thermally conductive metal inside the housing and in thermal contact with the housing.
5. (Previously Presented) An underwater lighting unit according to claim 1, wherein the collimators have transmission faces in the general shape of a hexagon.

6. (Previously Presented) An underwater lighting unit according to claim 1, wherein the housing is injection-moulded from a thermally conductive plastic material with contiguous and joint-free back and side walls.

7. (Previously Presented) An underwater lighting unit according to claim 1, wherein the transparent screen is a toughened glass screen.

8. (Previously Presented) An underwater lighting unit according to claim 1, wherein the screen is received in the peripheral recess around at least one side wall of the housing so as to lie flush with a front edge of the at least one side wall, and the screen is sealed and secured in place by a continuous bead of silicone resin placed around the recess before installation of the screen.

9. (Currently Amended) An underwater lighting unit according to claim 1, wherein the LEDs are each at least 1 watt in power.

10. (Currently Amended) An underwater lighting unit according to claim 1, wherein the LEDs are mounted on at least one printed circuit board which is secured to a back wall of the housing by encapsulating the printed circuit board ~~or boards in a~~ resin compound with only the LEDs exposed.

11. (Currently Amended) An underwater lighting unit comprising:
an array of light emitting diodes (LEDs) mounted against a wall of a thermally conductive housing;

a collimator comprising a conical or pyramidal moulding of a clear transparent material in front of each LED in the array; and

a transparent screen aligned across front faces of the collimators and in contact with said front faces, the transparent screen being sealingly edge-mounted in a peripheral recess around [[the]] side wall or walls of the housing so as to create and

maintain a sealed air space between an interior of the housing and the conical or pyramidal walls of the collimators, at least a portion of walls of the housing being in direct heat exchange contact with water in which the lighting unit is submerged to provide cooling for the array of LEDs.

12. (Previously Presented) An underwater lighting unit according to claim 11, wherein electrical leads for supplying electrical power to the LEDs pass through at least one aperture in a back wall of the housing.

13. (Currently Amended) An underwater lighting unit according to ~~claim 11~~ claim 12, wherein the at least one aperture leads to an interior of a hollow tubular mounting stem extending from the back wall of the housing, the mounting stem being externally screw-threaded for mounting the underwater lighting unit through a back wall of a cofferdam of a marine vessel ~~or through a hull of the marine vessel~~.

14. (Currently Amended) An underwater lighting unit according to claim 13, wherein the electrical leads pass through the mounting stem and are sealed therein by thermosetting resin injected into the hollow interior of the mounting stem ~~or stems~~ around the electrical leads.

15. (Currently Amended) An underwater lighting unit according to claim 13 secured through the back wall of a cofferdam of a marine vessel ~~or through the hull of a marine vessel~~, further comprising a seal between the housing of the lighting unit and the back wall of the cofferdam ~~or the hull~~, the seal comprising an initially flat elastomeric sealing disc trapped between one or more rearwardly facing annular ribs on a back wall of the housing and one or more forwardly facing annular ribs on the back wall of the cofferdam ~~or on the hull~~, both ribs or sets of ribs being concentric with the mounting stem of the housing and being of increasing diameters so that the

sealing disc is distorted into a corrugated shape as the housing and cofferdam ~~or hull~~ are drawn tightly together.

16. (Currently Amended) An underwater lighting unit according to claim 15, wherein the back wall of the housing further comprising a circular recess and wherein the associated annular rib or ribs of the housing extend from ~~[[the]]~~ a base of the circular recess.

17. (Previously Presented) An underwater lighting unit according to claim 11, wherein the LEDs are each at least one watt in power.

18. (Currently Amended) An underwater lighting unit, comprising
an array of light emitting diodes (LEDs) mounted against a wall of a thermally conductive housing;

a collimator comprising a conical or pyramidal moulding of a clear transparent material in front of each LED in the array; and

a transparent screen aligned across front faces of the collimators, the transparent screen being sealingly edge-mounted in a peripheral recess around ~~[[the]]~~ side wall or walls of the housing so as to create and maintain a sealed air space between an interior of the housing and the conical or pyramidal walls of the collimators, at least a portion of walls of the housing being in direct heat exchange contact with water in which the lighting unit is submerged to provide cooling for the array of LEDs.

19. (Previously Presented) An underwater lighting unit according to claim 18, wherein there are 30 or more LEDs in the array.

20. (Previously Presented) An underwater lighting unit according to claim 18, wherein the collimators have hexagonal transmission faces.